Quick Start Guide

S32G-VNP-EVB3

S32G is a vehicle network processor delivering high levels of real-time and applications processing, supporting CAN/LIN/FlexRay networking and Gigabit Ethernet interfaces with hardware acceleration and delivering a high level of embedded security and ASIL D functional safety capabilities.

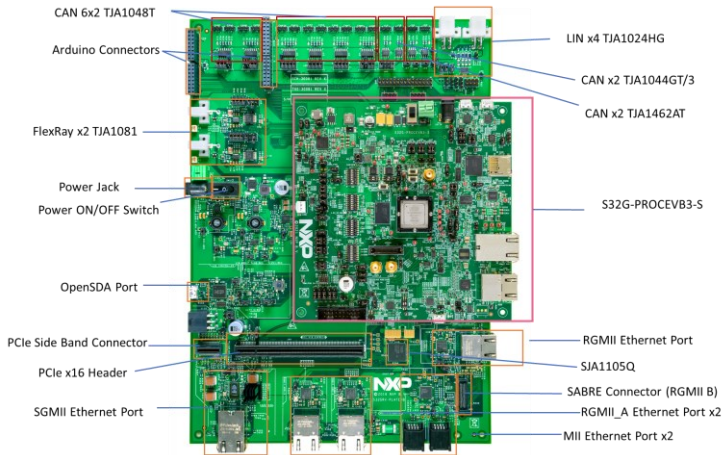# GET TO KNOW THE S32G-VNP-EVB3

Figure 1: S32G-VNP-EVB3

S32G-VNP-EVB3

The NXP S32G-VNP-EVB3 supports development, evaluation and demonstrations with the NXP S32G2x and S32G3x Vehicle Network Processor (VNP).

S32G targets applications such as:
- Central gateways and domain controllers
- Firmware Over-The-Air (FOTA) updates
- Secure key management, Smart antennas
- High-performance central compute nodes
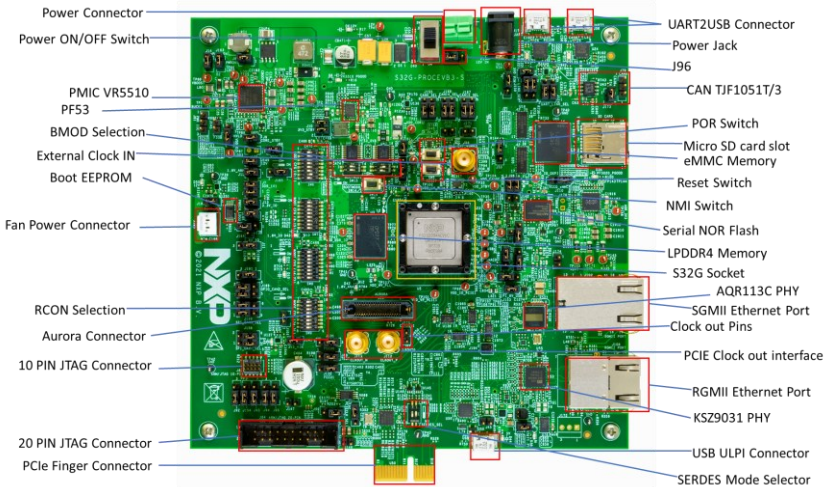
1

GET TO KNOW THE S32G-PROCESSOR MODULE

Power Connector
Power ON/OFF Switch
PMIC VR5510
PF53
BMOD Selection
External Clock IN
Boot EEPROM
Fan Power Connector
RCON Selection
Aurora Connector
10 PIN JTAG Connector
20 PIN JTAG Connector
PCIe Finger Connector

UART2USB Connector
Power Jack
J96
CAN TJF1051T/3
POR Switch
Micro SD card slot
eMMC Memory
Reset Switch
NMI Switch
Serial NOR Flash
LPDDR4 Memory
S32G Socket
AQR113C PHY
SGMII Ethernet Port
Clock out Pins
PCIE Clock out interface
RGMII Ethernet Port
KSZ9031 PHY
USB ULPI Connector
SERDES Mode Selector

Figure 2: S32G-PROCEVB3-S Processor Module
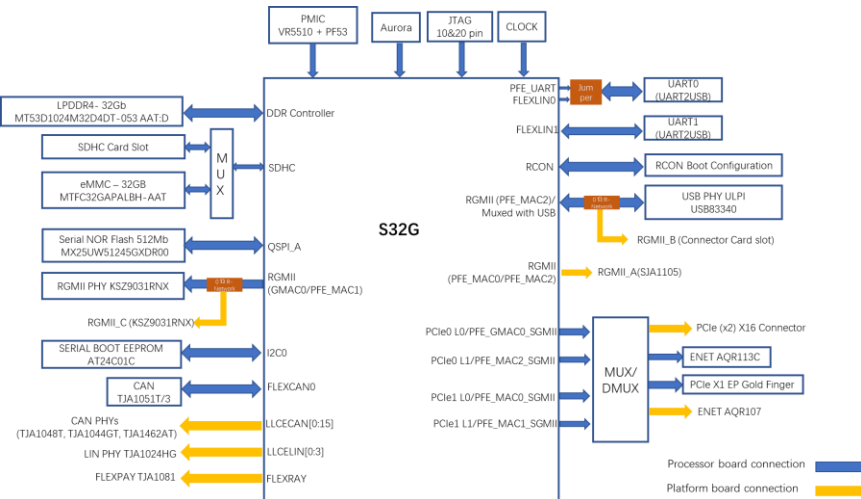
S32G-VNP-EVB3 Block Diagram

Figure 3 : S32G-VNP-EVB3 Block Diagram

3

STEP-BY-STEP INSTRUCTIONS

1 Install S32G and Heatsink

Follow the instructions in the **S32G-PROCEVB3-S – Silicon mounting guide** to install the S32G and heat sink.

For fan usage instructions refer to the S32G3-VNP-EVB User Guide

2 Connect the Power Supply

When the S32G-PROCEVB3-S is stacked on the S32GRV-PLATEVB: Jumper J96 on the S32G-PROCEVB3-S should be in position 1-2, and only the S32GRV-PLATEVB needs to be powered. Connect power supply to the 12V power jack P3 on S32GRV-PLATEVB.

When the S32G-PROCEVB3-S is used standalone: Jumper 96 should be in position 2-3. Connect power supply to the 12V power jack P1 on S32G-PROCEVB3-S.

3 Install Software

Install the following….

- ✓ Tera Term for console
- ✓ FTDI_CDM_v2.12.28 WHQL driver for serial configuration.
- ✓ Win32 Disk Imager
- ✓ Packet Sender Application

4 Setup Tera Term Console

Open Tera Term on Windows PC. Select the serial port to which the micro–USB J58 of the S32G-PROCEVB3-S is connected and click OK. Go to Setup→ Serial Port and select 115200 as the baud rate.

5 Power ON the S32G-VNP-EVB3

Switch ON the power switch SW1 on the S32GRV-PLATEVB and power switch SW10 on the S32G-PROCEVB3-S.

6 Diagnostics Utility

The Diagnostics Utility is auto executed from the SD card. Console display on Tera Term shows the status of the diagnostic tests.

Useful Documents and Projects

- DocStore
    - S32G-PROCEVB3-S – Silicon mounting guide
    - S32G-PROCEVB3-S-Rev A-Schematics-Layout
    - S32G3 Hardware Design Guide
    - S32G3 Boot Process Application Note
    - S32G3-VNP-EVB User Guide
- NXP web
    - [S32 VNP EVB Platform Board design details](#)
- Flexera
    - SW32G_EVBDIAG_0.8.7 Board Diagnostics

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